

QuietCab™ 12U, 24U, and 42U User Manual

Reduce noise and improve productivity
in your office with QuietCab soundproof
data cabinets.



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FEDERAL COMMUNICATIONS COMMISSION AND INDUSTRY CANADA RADIO FREQUENCY INTERFERENCE STATEMENTS

This equipment generates, uses, and can radiate radio-frequency energy, and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

Normas Oficiales Mexicanas (NOM) Electrical Safety Statement INSTRUCCIONES DE SEGURIDAD

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.

4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc.
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.
10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.
11. El aparato eléctrico deberá ser conectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.
12. Precaución debe ser tomada de tal manera que la tierra física y la polarización del equipo no sea eliminada.
13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.
14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.
15. En caso de existir, una antena externa deberá ser localizada lejos de las líneas de energía.
16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.

17. Cuidado debe ser tomado de tal manera que objetos líquidos no sean derramados sobre la cubierta u orificios de ventilación.
18. Servicio por personal calificado deberá ser provisto cuando:
 - A: El cable de poder o el contacto ha sido dañado; u
 - B: Objetos han caído o líquido ha sido derramado dentro del aparato; o
 - C: El aparato ha sido expuesto a la lluvia; o
 - D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o
 - E: El aparato ha sido tirado o su cubierta ha sido dañada.

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1. Specifications

Cable Knockout Size — (2) 2.4" (6.1 cm) diameter sliding grommet on top rear of cabinet;

(1) 2.4" x 13.7" (6.1 x 34.8 cm) brush grommet on bottom rear of cabinet

Fans — QC12UBE, QC12UWA, QC12ULG: (1) 3-fan single-speed panel, 115-V, 60-Hz, 2750 RPM;

Total Maximum Airflow: 276 CFM;

Total Maximum Power Consumption: 36 W;

QC24UBE, QC24UWA, QC24ULG: (2) 3-fan single-speed panels, 115-V, 60-Hz, 2750 RPM;

Total Maximum Airflow: 552 CFM;

Total Maximum Power Consumption: 72 W;

QC42UBE, QC42UWA, QC42ULG: (3) 3-fan single-speed panels, 115-V, 60-Hz, 2750 RPM;

Total Maximum Airflow: 828 CFM;

Total Maximum Power Consumption: 108 W

Light — 8 W T5 fluorescent (F8T5/D)

Maximum Heat Load — QC12UBE, QC12UWA, QC12ULG: 1.2 kW;

QC24UBE, QC24UWA, QC24ULG: 2.4 kW;

QC42UBE, QC42UWA, QC42ULG: 3.6 kW

Weight Capacity — QC12UBE, QC12UWA, QC12ULG: 1100 lb. (499 kg);

QC24UBE, QC24UWA, QC24ULG, QC42UBE, QC42UWA, QC42ULG:
1760 lb. (798 kg)

Noise Reduction — Up to 15 dB

Rack Units — 12U, 24U, or 42U

RoHS — Yes

Size — QC12UBE, QC12UWA, QC12ULG:

External: 27.7"H x 29.5"W x 44.6"D (70.4 x 75 x 113.2 cm),

Internal: 21.8"H x 22.4"W x 40"D (55.4 x 56.9 x 101.6 cm)

QC24UBE, QC24UWA, QC24ULG:

External: 48.7"H x 29.5"W x 44.6"D (123.8 x 75 x 113.2 cm);

Internal: 43.8"H x 22.4"W x 40"D (111.2 x 56.9 x 101.6 cm);

QC42UBE, QC42UWA, QC42ULG:

External: 81"H x 29.5"W x 44.6"D (203.8 x 75 x 113.2 cm);

Internal: 74"H x 22.5"W x 40.5"D (187.9 x 57.2 x 102.8 cm)

Chapter 1: Specifications

Weight — QC12UBE, QC12UWA, QC12ULG: 185 lb. (84.1 kg);
QC24UBE, QC24UWA, QC24ULG: 327 lb. (148.6 kg);
QC42UBE, QC42UWA, QC42ULG: 510 lb. (231.8 kg)

NOTE: Figures 1-1 through 1-3 show the QuietCab dimensions.

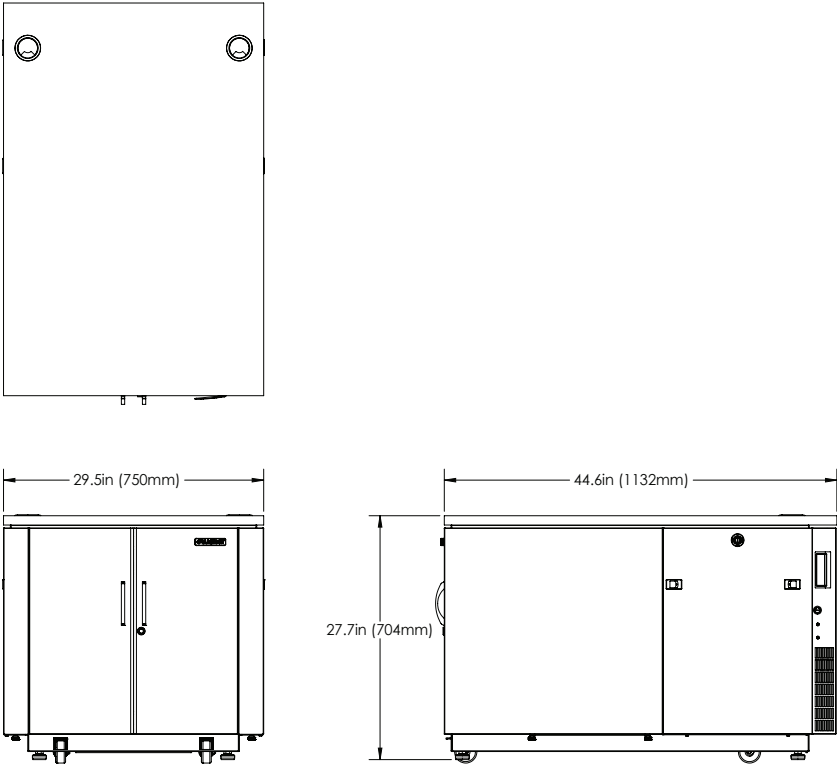


Figure 1-1. 12U QuietCab.

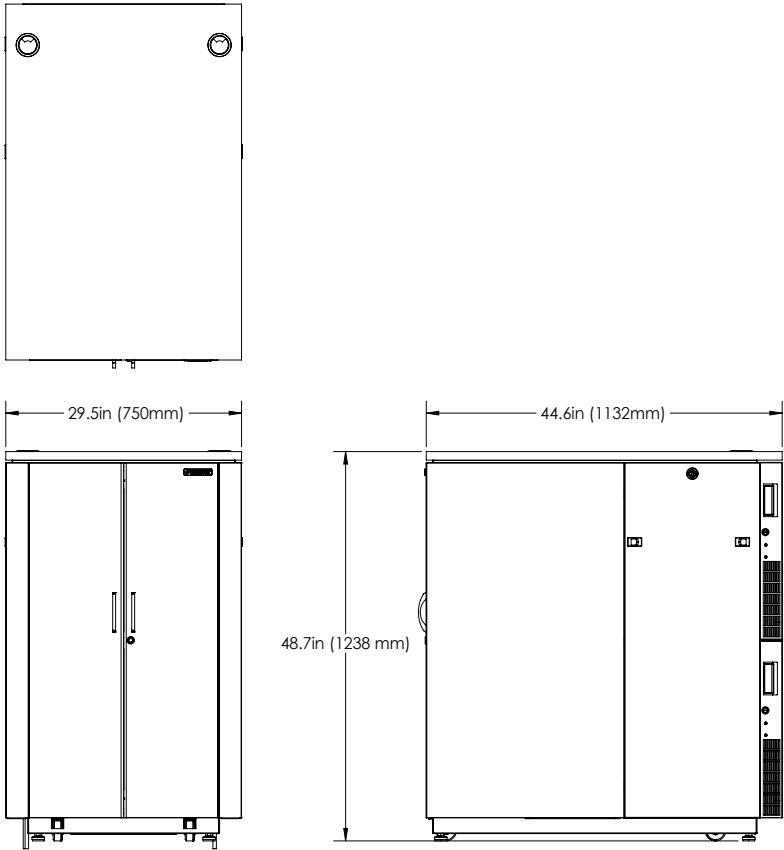


Figure 1-2. 24U QuietCab.

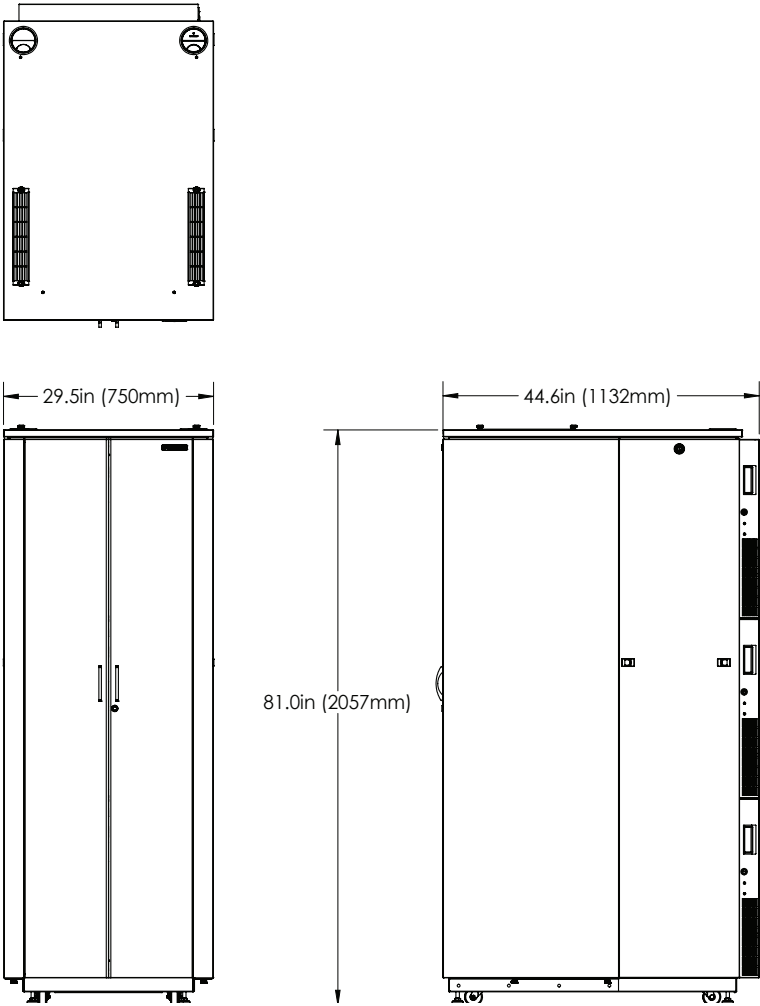


Figure 1-3. 42U QuietCab.

2. Overview

2.1 Introduction

QuietCab cabinets are specialized enclosures with integrated cooling, noise dampening, and power distribution for server and network applications in office environments. The enclosures provide storage for industry-standard (EIA-310), 19-inch rackmount hardware, which includes servers, voice, data, networking, internet-working, and power protection equipment.

Use the QuietCab in environments where you need to store network equipment near workers, such as offices, schools, medical offices, retail establishments, and more.

NOTE: The cabinet arrives fully assembled, with doors, leveling legs, casters, cage nuts, and a power strip installed. Horizontal cable managers and filter inserts are also installed. Keys, cage nuts, screws, and this user manual will ship inside the cabinet.

2.2 Features

- Cabinet is fully assembled.
- Physical rack capacity is fully EIA compliant—EIA 1 $\frac{3}{4}$ " / 4.5-cm rack spaces.
- Maximum rack depth is 30.25" (76.8 cm). Minimum rack depth is 22.5" (57.2 cm).
- Electrical systems are RoHS, RU, and CE compliant.
- Veneer finish, Choose from three colors to blend with your office environment: beech, walnut, and light gray.
- Acoustic foam lining reduces audible server and hardware noise by 15 dB to normal office background levels.
- Lockable doors (keys included).
- Rear access for simple hardware installation.
- Plug-and-play deployment.
- Fluorescent light (8 W).

2.3 What's Included

Your package should include the following items. If anything is missing or damaged, contact Black Box Technical Support at 724-746-5500 or info@blackbox.com.

Chapter 2: Overview

12U QuietCab (QC12UBE, QC12UWA, QC12ULG):

- (1) 12U QuietCab fully assembled
- (1) 6-outlet power strip, part number PS163A-R2 (installed)
- (2) horizontal cable managers (installed)
- (3) sets of keys
- (1) set of filter inserts (installed)
- (30) cage nuts and screws
- (1) power cord for fan module
- This user's manual

24U QuietCab (QC24UBE, QC24UWA, QC24ULG):

- (1) 24U QuietCab fully assembled
- (1) 6-outlet power strip, part number PS163A-R2 (installed)
- (2) horizontal cable managers (installed)
- (4) sets of keys
- (1) set of filter inserts (installed)
- (50) cage nuts and screws
- (2) power cords for fan modules
- This user's manual

42U QuietCab (QC42UBE, QC42UWA, QC42ULG):

- (1) 42U QuietCab fully assembled
- (1) 6-outlet power strip, part number PS163A-R2 (installed)
- (2) horizontal cable managers (installed)
- (5) sets of keys
- (1) set of filter inserts (installed)
- (50) cage nuts and screws
- (3) power cords for fan modules
- This user's manual

2.4 Accessories

The accessories described in Table 2-1 can be ordered separately:

Table 2-1. Accessories that work with the QuietCab.

Part Number	Accessory	Works with this Quiet Cab
QCCMV-12U-A	12U Vertical Cable Manager, Angled	QC12UBE, QC12UWA, QC12ULG
QCCMV-24U-A	24U Vertical Cable Manager, Angled	QC24UBE, QC24UWA, QC24ULG
QCCMV-42U-A	42U Vertical Cable Manager, Angled	QC42UBE, QC42UWA, QC42ULG
QCCMV-12U-S	12U Vertical Cable Manager, Straight	QC12UBE, QC12UWA, QC12ULG
QCCMV-24U-S	24U Vertical Cable Manager, Straight	QC24UBE, QC24UWA, QC24ULG
QCCMV-42U-S	42U Vertical Cable Manager, Straight	QC42UBE, QC42UWA, QC42ULG
QCCM-FB	Horizontal Cable Manager	QC12UBE, QC12UWA, QC12ULG, QC24UBE, QC24UWA, QC24ULG, QC42UBE, QC42UWA, QC42ULG
QCFK	Filter package	QC12UBE, QC12UWA, QC12ULG, QC24UBE, QC24UWA, QC24ULG, QC42UBE, QC42UWA, QC42ULG

2.5 Hardware Description

Figure 2-1 shows the QuietCab components. Table 2-2 describes these components.

NOTE: The Cabinet is shipped fully assembled.

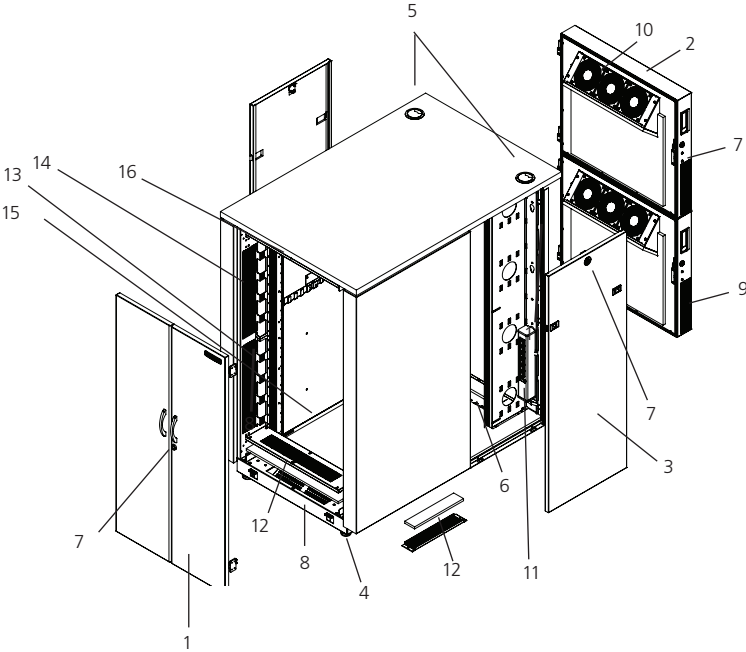


Figure 2-1. 24U QuietCab.

Table 2-2. 12U, 24U, and 42U QuietCabs' components.

Number in Figure 2-1	Component
1	Front door
2	Back door
3	Side panel
4	Caster and leveling feet
5	Top cable access port
6	Bottom cable access port
7	Lock
8	Airflow opening—Inlet
9	Airflow opening—Outlet
10	(1), (2), or (3) 3-fan single-speed panels*
11	6-Outlet power strip with NEMA 5-15R outlets (PS163A-R2)
12	Inlet air filters
13	Vertical mounting rails
14	Vertical cable managers
15	Horizontal cable managers
16	Light with on/off switch (mounted inside the door, on the underside of top).

NOTE: Keys, cage nuts, and screws are not installed and can be found inside the enclosure, along with this user manual.

**NOTE: Each fan panel has three single-speed fans. The 12U QuietCab units have (1) 3-fan panel, the 24U QuietCab units have (2) 3-fan panels, and the 42U QuietCab units have (3) 3-fan panels.*

Chapter 3: Preparing the Cabinet for Installation

3. Preparing the Cabinet for Installation

Follow these simple recommendations for best performance from your new enclosure.

3.1 Handling

NOTE: For palletized cabinets, see the unpacking instruction sheet before attempting to remove the cabinet from the pallet.

To achieve the level of acoustic performance and industrial needs of a high-quality 19" enclosure, the composition of cabinet parts means that the QuietCab cabinets are very heavy. When moving the cabinet, we recommend that a minimum of two people carry out this task.

3.2 Tools You Will Need

- 10-mm ratchet and socket
- Phillips screwdriver
- Utility knife
- Level
- Cage nut tool

3.3 Adjusting the Doors

The QuietCab cabinet's doors are aligned before they leave the factory. But in case they need adjustment, follow these instructions.

Side-to-side adjustment

Turning the front screw on the hinge counterclockwise will move the door closer to the corresponding side panel. Turning the screw clockwise will move the door toward the opposite side panel.

Front-to-back adjustment

Loosening the back screw will allow the hinge to be adjusted frontward or backward. Tighten the screw after adjustment.

4. Cable Management

There are two ways to route cable in and out of the cabinet: through the top panel or through the bottom rear entry panel.'

4.1 Top Panel Cable Entry

The top panel (see Figure 4-1) has two plastic cable entry grommets, which are lined with foam to prevent airflow and sound from escaping the cabinet. You can route cable through these grommets.

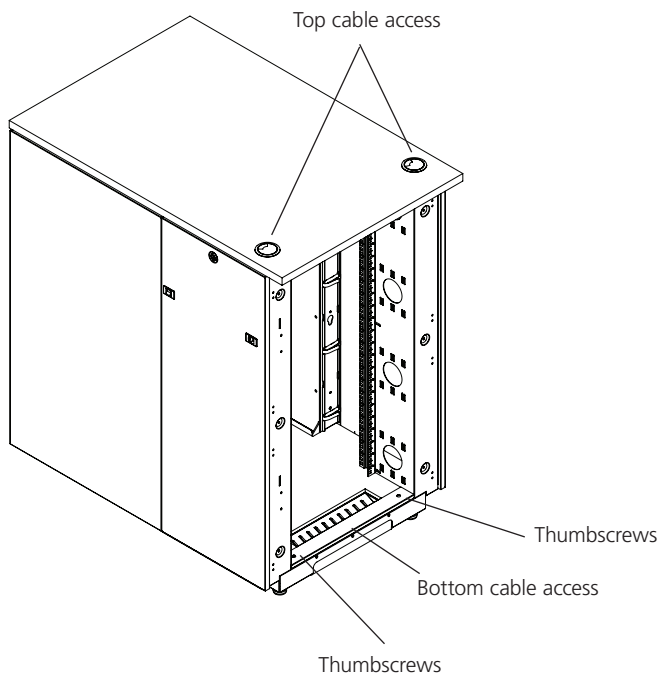


Figure 4-1. Top and bottom cable access (24U version shown).

4.2 Bottom Cable Entry

The cabinet has a cable access opening (see Figure 4-1 on the previous page) at the bottom of the enclosure. The cabinet is lined with foam on the top, bottom, and sides to prevent airflow and sound from escaping.

The cable port is large enough to accommodate several hundred Ethernet cables and has a removable top cover. To route the cable out of the cabinet, follow these steps:

1. Loosen the two thumbscrews and remove the rear cable access port top cover.
2. Bring the cable into the cabinet.
3. Put the cover back in place and fasten the two thumbscrews.

5. Installing Equipment in the Cabinet

5.1 Leveling the Cabinet

Level the enclosure before installing equipment. The leveling feet at the corners provide a stable base if the floor is uneven, but they cannot compensate for a badly sloped surface.

1. Move the enclosure to a level location.
2. For each leveling foot, turn the leveling foot clockwise until it makes firm contact with the floor.

5.2 Adjusting the Vertical Mounting Rails

Vertical mounting rails are factory installed on the enclosure (see Figure 5-1) in the proper position to use with rackmountable equipment. The front mounting rails are adjustable towards the front or the rear of the enclosure to accommodate different rails or equipment with other depths. You can adjust the rails to be as close as 22.5" (57.2 cm) or as far as 30.25" (76.8 cm) apart.

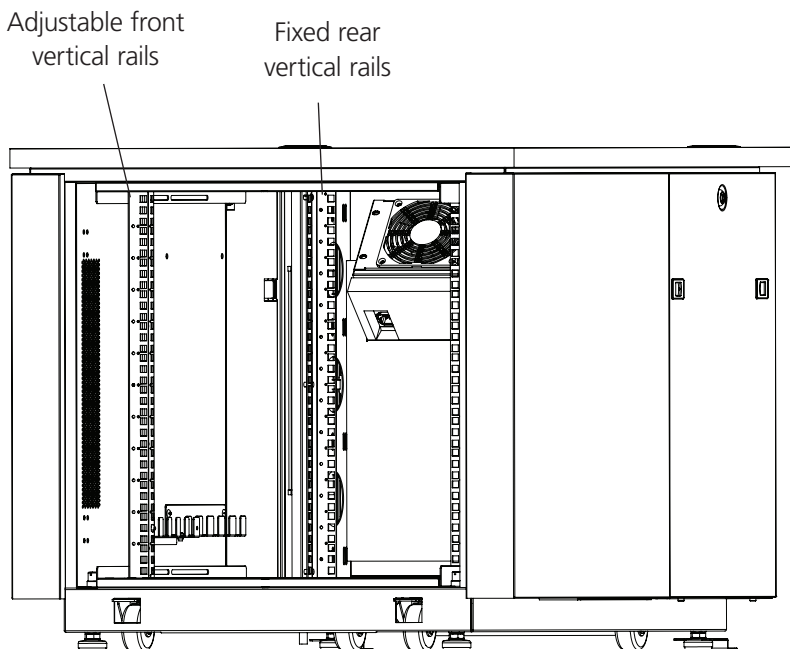


Figure 5-1. Vertical mounting rails installed in the cabinet.

Adjusting the vertical mounting rails on the side braces

WARNING: To avoid personal injury or damage to the enclosure, perform this procedure without any equipment installed on the mounting rails.

1. Use a 10-mm socket (not included) to loosen—but not remove—the bolts in the vertical mounting rails. See Figure 5-2.

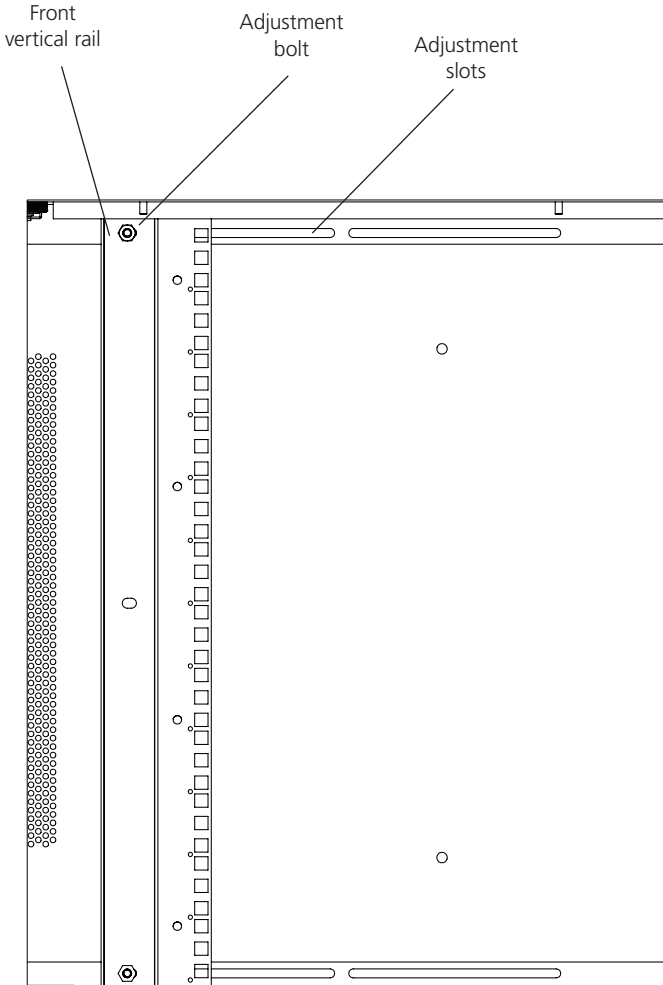


Figure 5-2. Loosen the bolts on the rails.

2. Move the vertical mounting rail to the desired location and tighten the bolts.

6. Additional Accessories

The following accessories are available:

- Vertical Cable Manager, Angled
- Vertical Cable Manager, Straight
- Horizontal Cable Manager
- Filter Package

Table 6-1. Accessories that work with the QuietCab.

Part Number	Accessory	Works with this Quiet Cab
QCCMV-12U-A	12U Vertical Cable Manager, Angled	QC12UBE, QC12UWA, QC12ULG
QCCMV-24U-A	24U Vertical Cable Manager, Angled	QC24UBE, QC24UWA, QC24ULG
QCCMV-42U-A	42U Vertical Cable Manager, Angled	QC42UBE, QC42UWA, QC42ULG
QCCMV-12U-S	12U Vertical Cable Manager, Straight	QC12UBE, QC12UWA, QC12ULG
QCCMV-24U-S	24U Vertical Cable Manager, Straight	QC24UBE, QC24UWA, QC24ULG
QCCMV-42U-S	42U Vertical Cable Manager, Straight	QC42UBE, QC42UWA, QC42ULG
QCCM-FB	Horizontal Cable Manager	QC12UBE, QC12UWA, QC12ULG, QC24UBE, QC24UWA, QC24ULG, QC42UBE, QC42UWA, QC42ULG
QCFK	Filter package	QC12UBE, QC12UWA, QC12ULG, QC24UBE, QC24UWA, QC24ULG, QC42UBE, QC42UWA, QC42ULG

Chapter 6: Additional Accessories

6.1 Vertical and Horizontal Cable Managers

The Vertical Cable Manager, Angled is pictured in Figure 6-1. The Vertical Cable Manager, Straight is pictures in Figure 6-2.

To install the angled or straight vertical cable manager, follow these steps:

1. Fasten the Vertical Cable Manager to the vertical rail using the included 10-32 screws (see Figures 6-1 and 6-2).
2. Use Velcro® to secure cables to the cable manager at the lacing points.

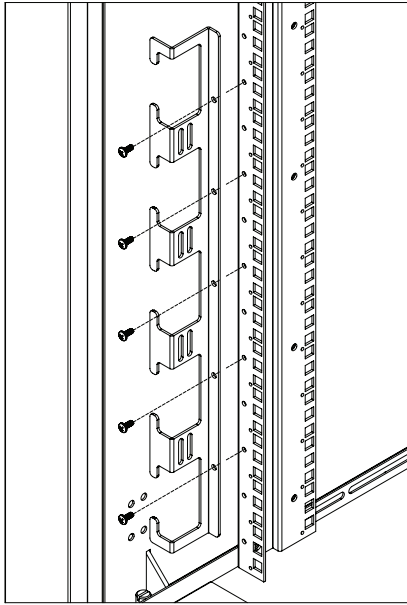


Figure 6-1. Vertical Cable Manager, Angled.

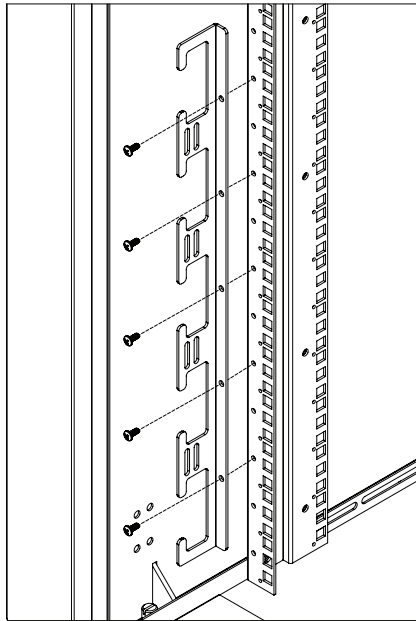


Figure 6-2. Vertical Cable Manager, Straight.

Also available is a Horizontal Cable Manager (pictured in Figure 6-3).

To install the Horizontal Cable Manager, follow these steps:

1. Fasten the Horizontal Cable Manager to the side panel using the included screws (see Figure 6-3).
2. Attach the end of the cable manager to the front vertical rail using the 10-32 screws (included).

NOTE: Two Horizontal Cable Managers are included, but you can also purchase them as accessories.

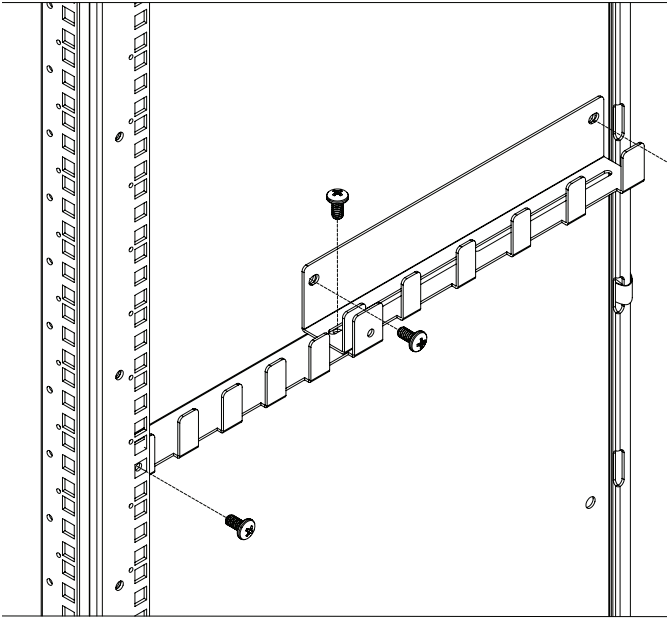


Figure 6-3. Horizontal Cable Manager.

Thread the cable through the notches and secure cable bundles with cable ties.

6.2 Filter Package

The Filter Package contains two side filters and one front filter. The filters keep dust and other contaminants out of the enclosure (see Figure 6-4).

To replace the front filter, follow these steps:

1. Remove the front filter cover by removing the two Phillips head screws located in the front of the cabinet.
2. Slide the old filter from the filter cover and replace it with the new filter.
3. Reinstall the front filter cover.

To replace the side filters, follow these steps:

1. Remove the side filter cover by removing the two thumbscrews located on the side of the cabinet.
2. Slide the old filter from the filter cover and replace it with the new filter.
3. Reinstall the front filter cover.
4. Repeat Steps 1 through 3 for the other side.

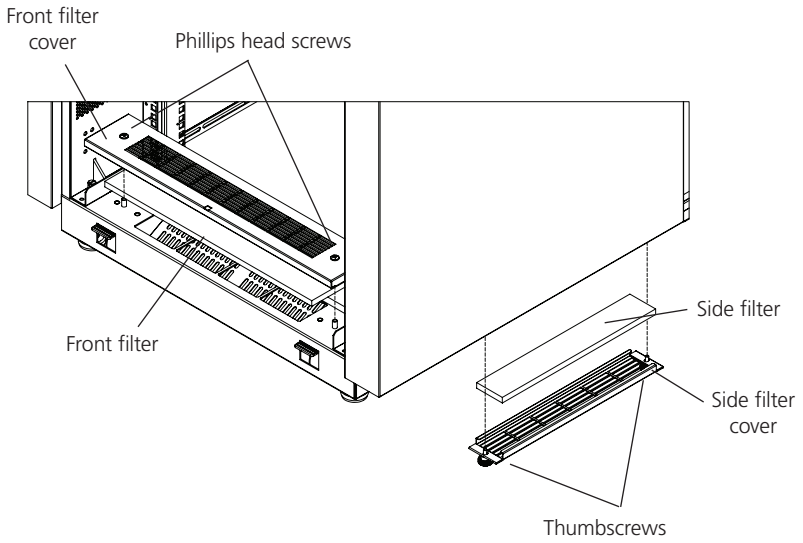


Figure 6-4. Filter Package.

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